

## Abstract

The depression of the immune system function that is typically observed after strenuous exercise is believed to be possibly mediated by stress hormones, cytokines and oxidative stress. The aim of this study was to investigate acute consumption of Coenzyme Q10 supplementation serum concentrations of Tumor necrosis factor-alpha (TNF- $\alpha$ ) during the maximal activity. Twelve healthy active males (age  $21/75 \pm 0/64$  yr, BMI  $23/7 \pm 0/94$  kg/m<sup>2</sup>) performed 30-min exercise at 80% to 85% HRmax.

Subjects 120 minutes pre-exercise received either of the following regimens: Coenzyme Q10 (2 mg per kg body weight) or placebo (food color). Blood samples were obtained prior to supplement consumption and immediately after exercise then groups were reversed after 4 days. The data were analyzed using paired and independent t-test. The statistical significance was set at  $p < 0.05$ . Serum levels of TNF- $\alpha$  increase in both supplementation and placebo group (4.2% and 5.12% respectively).

The results of this study showed that although increased serum levels of TNF- $\alpha$  was slower in the supplement group compared with the placebo group after maximal activity but Q10 consumption did not caused a significant decrease between two group ( $P=0/8$ ).